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WILDLIFE PROBLEMS OF THE INTERMOUNTAIN REGION
(Other than deer)

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ELK

Life history and forage habit studies of elk have been made in several areas. The most comprehensive of these have been made by Olaus Murie in the Jackson Hole area. His own work and all other available information on elk has been summarized in his book, "The Elk of North America", 1951. However, research on elk range and range relationships have not been intensively studied.

Overpopulations of elk resulting in serious range depletion, particularly on winter range, have been reported on the Teton, Targhee, Bridger, Boise, Payette, Salmon, Challis, and Uinta National Forests of Region 4. The Boise Forest alone has reported 175,000 acres of winter elk problem range. The Teton reports that, on the area which supports 90 percent of the big game use, none of the usable winter elk range was above fair condition. Twenty-seven percent was rated fair, 52 percent was rated poor--depleted, and the remaining 21 percent was listed as seriously eroding range which should not be grazed.

Balancing numbers with forage supply.

Many ranges are known to be overstocked with elk or elk and livestock. What is the extent of overstocking and how can this be determined? Where are the key areas and what are the key species? Elk are considered to be omniverous but studies which show this were conducted largely on overstocked, depleted range. Deer also were believed to feed widely on a great variety of species which is true, but when they have a choice

they make up a large part of their diet on a very few species. This may be true of elk where their preferred species are present. What are the forage requirements and how can grazing capacity be determined for elk? Little factual data are available on this question.

Rehabilitating depleted elk range.

(a) By management. What management practices would aid in improving depleted elk range? What natural recovery can be expected from range in various stages of depletion? Can key winter ranges where recovery is possible be restored naturally without very drastic reductions in elk numbers?

(b) Artificial revegetation. Many areas are so severely depleted that natural reproduction will probably be extremely slow. Some sites have presented difficulties in reseeding with presently known methods. What species are adopted and what methods can be used successfully? How can elk grazing be regulated to permit establishment of reseeded plants?

Competition with livestock--Cattle and sheep graze much of the range presently used by elk. Elk are spreading out over additional range occupied by livestock. Pickford and Reid found that elk and sheep were in direct conflict on a depleted summer range of the Whitman N. F. Murie states that elk and livestock are in direct conflict on the Jackson Hole elk range. None of the past studies have encluded studies of grazing patterns, seasonal conflict of forage use over the entire herd unit which are necessary to get the full picture of competition. What are the factors affecting competition? Elk are

known to concentrate in certain areas at different seasons. What types are preferred at different seasons? Are these elk concentration areas key areas for livestock? What are the key species for elk-livestock range? How can elk damage be distinguished from livestock? What are the guides to be used on elk-livestock range? How can livestock be managed to minimize conflict with elk?

Competition with other big game.

Deer graze most range used by elk. In some areas, particularly central Idaho, elk in large numbers are extending their range into areas already well stocked with deer. Cliff found that competition between deer and elk was very severe on the overstocked winter range of the Malheur N. F. of Oregon. Deer in Jackson Hole are reported to be further aggravating the elk winter range problem. On the Nebo Range of the Uinta N. F., deer and elk are believed to be competing seriously, especially on winter range. Are their grazing patterns and key forage species similar? Observations and studies have indicated that the elk have the advantage over deer and will starve deer out under severe competition. What is the story on properly stocked range? Can both be grazed to advantage on the same range or should one be favored over the other?--this question is being considered on several areas at present. Which competes more with livestock? What are the economic and recreational values involved?

Moose are building up on some areas of Wyoming and moving in on important elk winter range. About 1500 head of moose are estimated on the Teton N.F. What is the nature and extent of competition between moose and elk? What are the guides to be used in managing such common-use

range? At present life history and behavior studies of moose are being conducted by biologists at the Jackson Hole Wildlife Research Center near Moran, Wyoming. The Utah Wildlife Research Unit has a graduate student working on forage habits of moose at Moran.

Relation of elk to watershed.

Some elk and elk-livestock ranges are seriously depleted and eroding. On the Teton, 21 percent of the usable winter elk range is classed as seriously eroding. Tigerman, in some preliminary studies on the Teton N.F. indicates that browse cover is superior to grass in its effect on rate of infiltration and preventing sediment production--also that overgrazing by elk may seriously affect watershed values. In southern Idaho "sore spots", caused by overgrazing of elk in winter, are invaded by cheatgrass. This creates a fire hazard and an erosion hazard. Elk are known to concentrate on exposed grassy slopes which warm up early in spring. Here their trampling in the wet soil is very evident. What effect does this have on vegetative cover, infiltration capacity of the soil, and sediment production? To what extent do elk contribute to watershed problems on elk-livestock range?

Economic and recreational values of elk and their relations to the overall land-use economy.

In Jackson Hole, elk values are considered to be greater than livestock values. Fishing values far exceed elk values to the local people. Water values are even higher downstream. The tourist industry is listed as the third largest industry in the state and it is concentrated in the Jackson Hole area. What is the role of the elk herd in the economy of Jackson Hole and other areas and how should the herds be

managed to be consistent with all the resources of the land? Local residents are wondering if it would not be better to do away with the Nebo elk herd in Utah and raise only deer. Deer supply more hunters with sport and are less destructive to agriculture. Can both deer and elk be grazed to good advantage in such cases or would deer alone be of greater economic and recreational value?

ANTELOPE

Reestablishing antelope on suitable ranges.

Many ranges originally inhabited by antelope have no antelope today. Some of the remnant herds have shown no increase for many years even though they have been protected from legal hunting. Other herds have shown a rapid buildup in recent years. The Utah State Fish and Game Department and the sportsmen of Utah are initiating a vigorous antelope planting program. Nevada is also doing some planting. What are the habitat requirements of antelope? What are the factors that tend to limit antelope increase? Arthur S. Einarsen has written a monograph on the pronghorn antelope and its management which suggests possible answers to these questions. However many of the relations of antelope and range to livestock need further study before we will know the possibilities of reestablishing antelope over extensive areas of the Intermountain Region.

Managing antelope range. Several areas in the Region are well stocked and some overstocked with antelope. Nevada estimated 21,500 in 1945. Most of the antelope using National forest range are on the Challis N. F. where they are becoming a problem especially on range adjacent to the forest . Utah has one herd in Dogget County where

hunting has been permitted and adjacent areas in Wyoming are heavily populated with antelope. What are the guides which may be used to determine proper stocking and management? What are the key species, key areas, and indicators of condition and trend for antelope range?

Competition with livestock. Much of the antelope range of the Region is heavily grazed by livestock in winter or in spring and fall. With the present antelope planting program in Utah and the rapid upward trend of antelope numbers in Nevada, the problem of competition between antelope and livestock is likely to become much more important. What is the nature and extent of competition? How do grazing patterns, forage preferences and areas of intensive use compare? How can antelope damage be distinguished from livestock? How can livestock be managed to minimize competition with antelope?

BIG HORN SHEEP

Declining population. In spite of total protection from legal hunting for many years, remnant herds of big horn sheep remain stagnant or continue to gradually decline. The Teton estimates of big horn was 2,000 in 1934 and around 300 in recent years. The Tarryall herd in Colorado is about the only known big horn sheep that are actually making satisfactory increases in numbers. What are the ecological requirements of big horn and what are the range factors responsible for their decline or slow increase? The Idaho Wildlife Research Unit now has a graduate student working on the ecology of the Mountain Bighorn in Idaho.

Competition with elk - Elk are reported to be overlapping the big horn sheep range on the Teton and making inroads on the sheeps' limited winter forage. What is the nature and extent of this competition and

possible remedies?

Competition with livestock - To what extent do livestock graze big horn range and what are the range relationships between livestock and big horn? Grazing of domestic sheep are generally believed to have been a factor in the decline of mountain sheep.

BEAVER

Overpopulations - On many areas in the Region, beaver numbers are exceeding the forage supply and destroying it. What is proper stocking for beaver and how can proper stocking be determined? What are the possibilities of economically increasing beaver foods on overstocked, depleted areas?

Competition with elk and moose - Overpopulations of elk, and also moose in limited areas, are interfering with beaver food supply by killing out willow and aspen reproduction. How serious is this to the beaver resource? What can be done to restore beaver food on depleted areas by planting or to protect beaver forage from destruction by big game? Are beaver forages key forage species for elk and moose or is it only under severe overstocking that damage to important beaver plants occur?

UPLAND GAME BIRDS

Sage grouse - A great decline has occurred in sage grouse over its natural range since early days. Comeback under protection from hunters has been slow and of scattered occurrence.

What is good sage grouse habitat and what are their ecological requirements? What are the range relations between sage grouse and

livestock? What effect has overgrazing and changes in forage cover had on the decline or slow building up of sage grouse? Is the build-up in certain areas correlated with improved range conditions?

Robert L. Patterson in his book "The Sage Grouse in Wyoming" points out that the great decline in sage grouse in Wyoming coincided with the period of maximum utilization of range by livestock from 1900 to 1915. He suggests that better range management and proper hand use is favorable to sage grouse.

The Utah Wildlife Research Unit now has a graduate student working on the effect of grass reseeding on sage grouse at the Pines' Reseeding Area on the Dixie.

Sharptail grouse - Elk and possibly other grazing animals have destroyed willow growth along mountain streams. This is the favorite habitat of the sharptail grouse in Wyoming. Reduction in sharptail have been noted with the destruction of willow cover. Has overgrazing been a primary factor in the disappearance of sharptail? What are the habitat requirements of sharptail grouse? What are the possibilities of improving sharptail habitat and what methods can be used to build up the population and prevent its possible extinction in this Region?

The Utah Wildlife Research Unit has made a study of the status and life history of the sharptail grouse in Utah. They state that remnants flocks in Idaho and Northern Utah are not increasing due to overgrazing and dry-land farming.

Ruffed, dusky, Franklin, and Richardson grouse - Numbers of these grouse have been greatly reduced over the Region with only slow scattered build-up in populations. These grouse are considered more or less virgin

forest species. What are their habitat requirements? What effect has overgrazing by livestock and big game or burning and logging had on their decline and slow recovery?

RODENTS

Jackrabbits - Cyclic peak populations of rabbits apparently have considerable impact on range forage over extensive areas of the Intermountain Region. Considerable work has been done by Vorhies on the ecology of jackrabbits in Arizona. What are the ecological relations of rabbits to range in the Intermountain Region? Piemeisel found that jackrabbits can hold vegetation on abandoned land in an annual weed stage for many years. How do they affect important livestock and big game forage species? To what extent do they reduce grazing capacity? What effect do they have on reseeding? What are the indicators of rabbit use and damage to range as distinguished from livestock and big game?

Pocket gophers are abundant on many mountain peaks and open hillsides of the Region. Reid and Moore found that in Oregon, pocket gophers could keep a depleted range in poor condition but had little effect on range in good condition. Ellison and Aldous found that pocket gophers had little adverse effect on the perennial vegetation on the Wasatch plateau of Central Utah. What are their effect on range depletion, reseeding, and natural revegetation in other types of the Intermountain Region? To what extent, if any, do abundant populations reduce annual grazing capacity? What are the other ecological relationships of gophers to range? A limited study is now in progress on the Monte Cristo division of the Cache N. F. to determine the effects of gophers on grass reseeding.

Ground squirrels and other small rodents are abundant on many ranges. Mice have been reported girdling bitterbrush and sagebrush on localized areas. Piemeisel found that in heavy cheatgrass mice can prevent the establishment or survival of perennial grasses by cutting plants off at the root crown. What are the relations of these small rodents to other ranges of the Region?

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